

Simultaneous spectrophotometric determination of Tartrazine and Allura red in commercial products by artificial neural network calibration

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Abstract The artificial neural network trained by back-propagation learning was applied to process spectrophotometric data of mixed tartrazine (STA) and allura red (SAL). By optimizing the network structure accuracy was enhanced. The method was used for simultaneous determination of mixed colorants in commercial products on sale with satisfactory results. Therefore, the artificial neural network may provide a new approach to determine the mixed colorants in synthetic food drink by spectrophotometry without any preliminary chemical separation. The aim of this work is to propose the application of ANN methods to resolve mixtures of colorants in commercial products by using solid phase spectrophotometry. The proposed methods are rapid, easy to apply, not expensive and suitable for analysing of colorants in a commercial products. The method takes advantage of the sensitivity and selectivity.

Keywords: UV-Vis spectra, simultaneous determination, ANN
